

# Work Order ID 71519

Wednesday, July 06, 2011 7:31:52 AM



Page 1 :

Item ID: D412-742-011

Accept



Setup Start



Revision ID:

Item Name: Float Skidtube Installation

Stop



Start Date: 7/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/6/2011 Req'd Qty: 1.00



Customer: CC-EAG001

Reference: RMA RA111249

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

IIN-D412-742

D

100

0.00



QC

Memo

0.00

Quality Control

INSPECT RA111244

B88633

8/6/105

110

0.00



HandFinish

Memo

0.00

Hand Finishing

-DISASSEMBLE/REMOVE ALL GASKET, WEARPLATES, BOLTS, WASHERS, ELECTRIC STEP HARDWARE, ETC...DISCARD/SCRAP ALL

-REMOVE SADDLES AND GROUND HANDLING LUGS - ENGINEERING APPROVAL REQ'D

-SAND ENTIRE TUBE WITH 320 GRIT

- TOUCH UP ALODINE PER QSI005

- BLEND OUT ~ 0.010" DEEP x ~ 0.250" LG SCRATCH IN FWD SECTION OF SKIDTUBE (JUST FWD OF WEARPLATE (AS PER D. SHEPHERD))

11/07/06

11/07/06

**Work Order ID 71519**

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Accept



Setup Start



Revision ID:

Stop



Item Name: Float Skidtube Installation

Start Date: 7/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/6/2011 Req'd Qty: 1.00



Customer: CC-EAG001

Reference: RMA RA111249

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

m 11 07 06 ①

130

Spray Painting per QSI005 4.2

0.00



SprayPaint

Memo

0.00

Spray Painting

-PRIME TUBE B 117319  
-SPRAY PAINT WHITE B 117938

m 11 07 06 ①

140

QC14- Inspect Spray Paint

0.00



QC

Memo

0.00

Quality Control

BT 11 - 07 - 07

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Start Date: 7/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/6/2011 Req'd Qty: 1.00



Customer: CC-EAG001

Reference: RMA RA111249

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150  HandFinish Hand Finishing	 Memo ✓ RE-ASSEMBLE TUBE USING NEW GASKETS, WEARPLATES AND HARDWARE PER DRWG	0.00 0.00				1	0	22 11/07/07	
160  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00		8 11/07/07					
170  Packaging Packaging	 Memo PICK NEW KIT PER ATTACHED PICK LIST	0.00 0.00							

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Item ID: D412-742-011

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Start Date: 7/5/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 7/6/2011 Req'd Qty: 1.00



Customer: CC-EAG001

Reference: RMA RA111249

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180  QC Quality Control	QC4- 100% Inspect kits for completeness  Memo @ CHC7420	0.00 0.00							
190  Packaging Packaging	Memo RE-PACKAGE PER PPP USING NEW B/N NEW LABELS AND PAPERWORK REQ'D	0.00 0.00							
200  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							

11/7/08

ck 11/07/08  
mf  
11-07-08

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation



Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: A: 05.10.13 New Issue [KJ/JLM]  
 IPP Rev: B: 06-06-08 As per DSI9336 JLM  
 IPP Rev: C: 07-05-28 As per Rev C JLM  
 IPP rev D: 07.11.01 ecn 1053P EC  
 IPP rev E: 07.11.27 ecn 1072 EC verified by: DD  
 IPP Rev: F: 08-09-08 ecn 08-510 DD verified by: EC  
 IPP Rev: G: 09-01-23 as per DSI9441 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN3C37A 		Purchased	No				Each	187.0000		3			
BOLT													

Location Loc Qty Loc Code

ST353 178  
 116874 11  
 117010 2  
 117763 25  
 117885 60  
 118159 80

ST354 9  
 117343 9

117763 28

117343 18

AN3C40A

Purchased

No

Each

85.0000

BOLT

Location Loc Qty Loc Code

ST354 85  
 112454 35  
 114442 50

112454

Comp/12

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C41A

Purchased

No

Each

159.0000

3

BOLT

Location

Loc Qty

Loc Code

FG

4

103324

4

ST354

155

117407

80

117950

75

AN3C42A

Purchased

No

Each

61.0000

3

BOLT

Location

Loc Qty

Loc Code

ST354

61

106176

21

117763

20

118131

20

AN3C43A

Purchased

No

Each

51.0000

3

BOLT

Location

Loc Qty

Loc Code

ST354

26

114455

20

117313

6

ST355

25

117688

25

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C44A

Purchased No

Each

81.0000

9



BOLT

## Location

## Loc Qty

## Loc Code

ST355

81

110848

81

Each

58.0000

10

AN3C47A

Purchased No



BOLT

## Location

## Loc Qty

## Loc Code

ST355

58

110847

8

116874

50

Each

2,092.000

24

AN3C4A

Purchased No



BOLT

FP

## Location

## Loc Qty

## Loc Code

ST350

2092

117313

2

117688

776

117795

500

117872

22

118012

500

118112

292

110848

110847 84

116874 24

24 1107107

Y 24

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Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

Each

240.0000



BOLT

FP

12

M

11/07/08

## Location

## Loc Qty

## Loc Code

FP-A

1

111982

1

ST351

239

111982

2

116419

23

116549

2

116704

12

117619

50

117688

100

117872

50

X4

X4

AN3C7A

Purchased

No

Each

119.0000



BOLT

FP

8

M

11/07/08

## Location

## Loc Qty

## Loc Code

ST351

107

113149

14

116169

1

117313

42

117688

50

ST352

12

117619

12

X2

X2

X4

4

AN4C47A

Purchased

No

Each

47.0000



Bolt

8

4

4

11/17/08

## Location

## Loc Qty

## Loc Code

ST361

47

117163

40

117619

7

11/17/08

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN4C52A

Purchased

No

Each

91.0000

8



BOLT

Location

Loc Qty

Loc Code

ST361

91

117163

60

117619

8

117688

7

118012

16



118012  
16

AN4C6A

Purchased

No

Each

410.0000

16



Bolt

Location

Loc Qty

Loc Code

FG

4

103344

4

ST306

12

117313

12

ST356

394

116704

19

117619

150

117794

50

117872

75

118191

100



117619

AN4C7A

Purchased

No

Each

359.0000

4



Bolt

Location

Loc Qty

Loc Code

ST356

359

109147

359



1109147

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN6C12A Purchased No Each 46.0000  
BOLT

Location	Loc Qty	Loc Code
ST342	46	
116022	8	
117688	38	

AN960C10L NAS1149C0332 Purchased No Each 0.0000

washer

AN960C10L NAS1149C0332 Purchased No Each 0.0000

washer

AN960C416L NAS1149C0332 Purchased No Each 0.0000

WASHER NAS1149C0432R M117291

AN960C416L Purchased No Each 0.0000

WASHER

AN960C616L NAS1149C0632R Purchased No Each 0.0000

WASHER

D2571 Manufactured No Each 8.0000

Saddle, Fwd Out 205

Location	Loc Qty	Loc Code
ST433	8	
70456	8	

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Work Order ID: 71519

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Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

D2572 Manufactured No

Each 5.0000

1



Saddle, Fwd In 205

Location

Loc Qty

Loc Code

ST433

5

70457

5

Each

6.0000

1

D2573 Manufactured No



Saddle, Aft Out 205

Location

Loc Qty

Loc Code

ST434

6

70458

6

Each

6.0000

1

D2574 Manufactured No



Saddle, Aft In 205

Location

Loc Qty

Loc Code

ST434

6

70459

6

Each

198.0000

4

D2747 Manufactured No



Set Screw

Location

Loc Qty

Loc Code

ST021

198

69494

98

71163

100

69494

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Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

D2876

Manufactured No

Each

36.0000

2



Saddle Spacer

Location

Loc Qty

Loc Code

ST025

4

66849

4

ST026

32

68282

32

Each

55.0000

2

D2877

Manufactured No



Saddle Spacer

Location

Loc Qty

Loc Code

ST025

55

66843

9

68283

46

Each

110.0000

16

D3403-1

Manufactured No



Bushing

Location

Loc Qty

Loc Code

ST052

110

69508

5

70696

40

71350

65

Each

45.0000

8

D3403-3

Manufactured No



Bushing

Location

Loc Qty

Loc Code

ST

45

69509

45

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3405-041

Manufactured No

Each

3.0000

1



Lug Assembly



70820

*[Signature]*

## Location

## Loc Qty

## Loc Code

ST474

3

62227

2

68970

1

D3405-043

Manufactured No

Each

8.0000

1



Lug Assembly



*[Signature]*

## Location

## Loc Qty

## Loc Code

ST423

2

65703

2

ST481

6

68966

6

D3407-041

Manufactured No

Each

11.0000

1



Tow Ring



68966

*[Signature]* 7/12/11

## Location

## Loc Qty

## Loc Code

ST463

10

70981

10

ST464

1

69885

1

70981

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3417-3

Manufactured No

Each

80.0000

2



Washer

Location

Loc Qty

Loc Code

FG

9

33519

9

ST053

71

51648

24

53182

23

66847

24

51648

D3456-1

Manufactured No

Each

112.0000

1



Washer

Location

Loc Qty

Loc Code

FG

7

25701

7

ST054

105

66848

3

69774

2

71033

50

71165

50

71033

D3533-1

Manufactured No

Each

70.0000

2



Set Screw

Location

Loc Qty

Loc Code

ST066

70

67583

70

67583

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Work Order ID: 71519

Parent Item: D412-742-011

Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-1  
  
 Wearshoe

Manufactured No

Each 16.0000

1



use original M 1107/07


Location Loc Qty Loc Code

FG 2

33798 2

FP019 14

69291 14

D3564-3  
  
 Wearshoe

Manufactured No

Each 10.0000

1



use original M 1107/07

Location Loc Qty Loc Code

FG 2

33764 2

FP019 8

64748 3

66000 4

69290 1

D3564-5  
  
 Wearshoe

Manufactured No

Each 24.0000

1



use original M 1107/07

Location Loc Qty Loc Code

FG 2

34806 2

FP019 22

70864 22

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Work Order ID: 71519

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Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-1

FP

Manufactured No

Each

32.0000

2



Gasket



u107107

## Location

## Loc Qty

## Loc Code

FP011

24

70769

24

FP015

8

68924

2

69279

6

x2

D3566-5

FP

Manufactured No

Each

16.0000

1



Gasket



u107107

## Location

## Loc Qty

## Loc Code

FP015

16

68961

16

x1

D3672-11

Manufactured No

Each

379.0000

16



Phenolic Washer



## Location

## Loc Qty

## Loc Code

ST074

379

58046

379

58046

D3672-3

FP

Manufactured No

Each

795.0000

4



Phenolic Washer



u107107

## Location

## Loc Qty

## Loc Code

ST074

795

64176

295

71159

500

x4

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Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-3 Manufactured No

Each 795.0000

32



Phenolic Washer

Location

Loc Qty

Loc Code

ST074

795

64176

295

71159

500

64176 6X

71159 264

8

D3672-9 Manufactured No

Each 312.0000



Phenolic Washer

Location

Loc Qty

Loc Code

ST074

312

35523

312

35523

1

D412-742-015 Manufactured No

Each 3.0000



Electric Step

Location

Loc Qty

Loc Code

FG031A

3

69061

1

70617

2

70617

33

MS21043-3 Purchased No

Each 1,133.000



Nut

Location

Loc Qty

Loc Code

FG

72

103691

72

ST301

1061

112314

69

118077

992

118077

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Parent Item Name: Float Skidtube Installation

Start Date: 7/5/2011

Required Date: 7/6/2011

Start Qty: 1.00

Required Qty: 1.00

MS21043-3

Purchased No

Each

1,133.000

Nut

Location

Loc Qty

Loc Code

FG

72

103691

72

ST301

1061

112314

69

118077

992

MS27039C4-12

Purchased No

Each

27.0000

SCREW

Location

Loc Qty

Loc Code

FP-B

27

114221

27

P2646 / B62678

X1

HL 1107107

MS27039C1-09 M117831

4 HL 1107107

MS27039C4-08 / M114472

4 HL 1107107

D3672-1 / B6417759

4 HL 1107107

D3672-3 / M117159

4 HL 1107107

AN9600416L / NAS1149C0332R / M117291

4 HL 1107107

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D3272-1 / B64177

(X6) HL 1107107

D3566-13 / 1369281- X 1 94 "107/07  
 D3553-1 / 1366568 X 1 94 "107/07  
 D3553-3 / 1353480 X 1 94 "107/07  
 AN3C-4A / M118112 X 8 94 "107/07  
 AN3C-SA / M117872 X 4 94 "107/07  
 MAG149C032R / Y118179 X12 94 "107/07  
 D37101-041 / 1371352 (X1) 94 "107/07

DART Aerospace Ltd

## CUSTOMER RETURN

#RA: 111249  
Date: JUN 30, 2011Initiator: M. BELVAULT (B. DECKETT)  
Company: EAGLE COPTER  
Contact: MARK MIELE  
Phone No.: 1 403 250 7370Invoice #: 104997  
SO#: 104616

Attach Copy of DHS Return Authorization #: \_\_\_\_\_

SQ#: \_\_\_\_\_ NCR#: \_\_\_\_\_ CSR#: \_\_\_\_\_ PAR#: \_\_\_\_\_

Reason for Return:

SEE ATTACHED.

Receiving:

Date Received: 11/7/15 Freight Company: DAY 2555 Prepaid Collect

Qty	Part #	Batch #	Description	Distribute to QC	
				Advise QA	Date:
1	D412-742-011	B68633			
1	D412-742-011	B68631			

Condition of Packaging: GoodPhotograph Required: yes noPaperwork Attached: P/S X Invoice \_\_\_\_\_ ARC \_\_\_\_\_ Docs \_\_\_\_\_ Other \_\_\_\_\_

QC:

Quarantine Location: QC QuarantCondition of Part: Sealed / Accepted / Damaged / ScrapInspectors Initial: E Date: 11/7/15Photograph Required: yes no Schei's took Picture

Qty	Part #	CHG #	Batch #	QC Comments	QC Approval		Scrap
					Initial	W/O#	
	D412-742-011		B68633	<u>see Attached instruction</u>	<u>CK</u>	<u>71519</u>	
	D412-742-011		B68631	<u>Shots</u>	<u>CK</u>	<u>71531</u>	

QA Coordinator:

Advise GM as to Findings: Initial: \_\_\_\_\_ Date: \_\_\_\_\_

Comments:

Issue Credit: yes noGM Approval: [Signature]Date: 11/07/15Invoice Amount: \_\_\_\_\_  
Less Replacement: \_\_\_\_\_  
Restock Fee: \_\_\_\_\_  
Freight: \_\_\_\_\_  
Net Credit: 15092.47  
DHS Customer

QA: Enter into Q-Pulse with Reason for Return &amp; File original. Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Copy of Customer Return to stay with work orders and another copy to be filed with customer credit

**RA 111244 QTY X2 D412-742-011**

**Float skid tubes**

Received at Dart Aerospace July 5<sup>th</sup>, 2011  
Inspected July 5<sup>th</sup>, 2011

**D412-742-011 B68631**

**Instructions to put float skid tube back into stock**

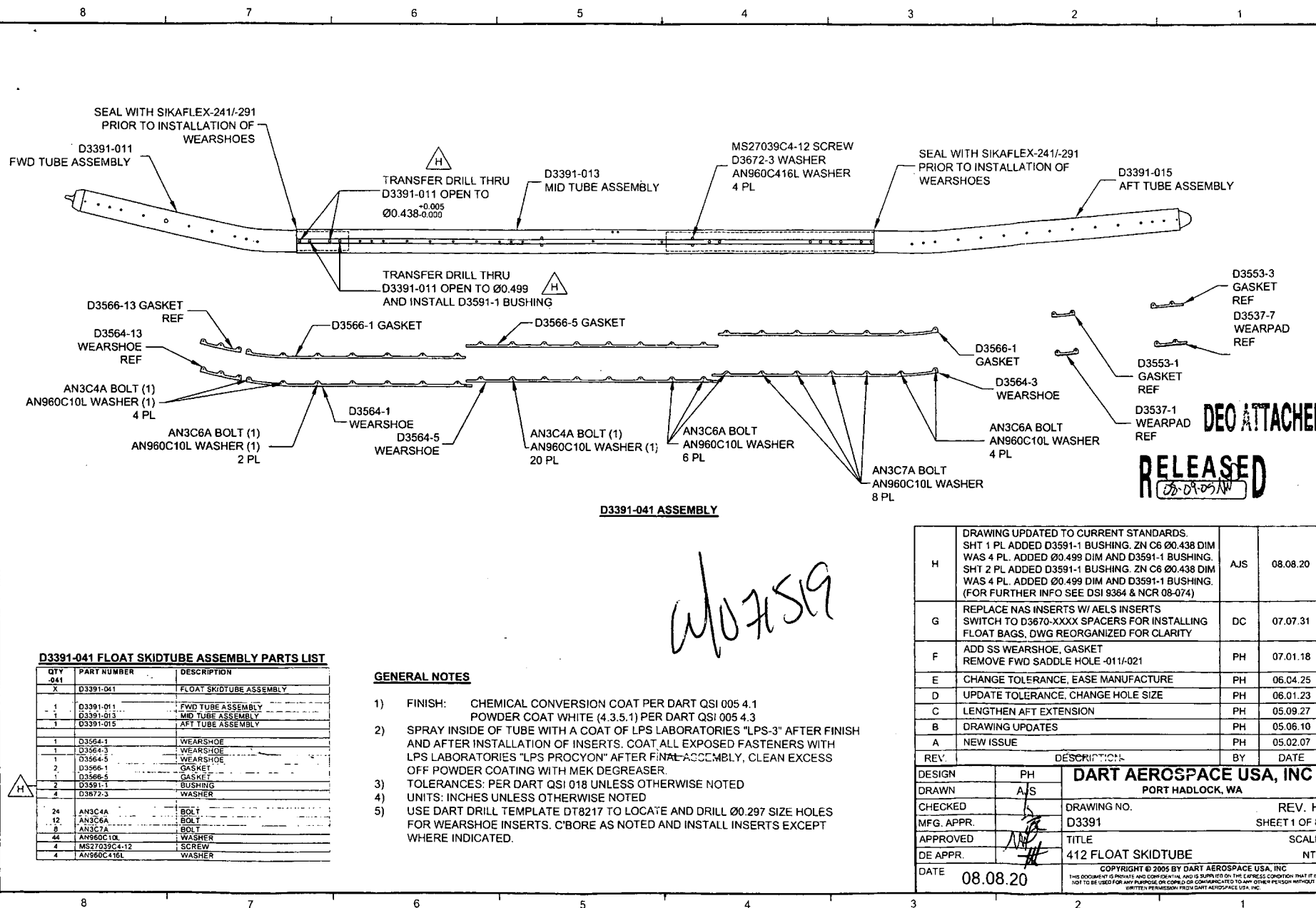
- Remove and **scrap all** wear plates and gaskets
  - Replace with new stock, bolts, and washers
- Remove aft and tow caps
  - Re powder coat as per QSI 005
  - Re install with new bolts and washers
  - AN3C4A, AN960C10L, D3672-1, QTY X8
- Remove all **SADDLES AND GROUND HANDLING LUGS** and set aside for engineering approval
  - create different w/o for this
- discard all hard ware (nuts, bolts, bushings and washers)
- remove all electric step hard ware and discard
- **SAND ENTIRE TUBE WITH 320 GRIT**
- **TOUCH UP ALODINE AS PER QSI 005**
- **RE POWDER COAT AS PER QSI 005**
- Re assemble as per Drawing
- **NO TOW RING WAS RETURNED**
- **Needs complete new kits**

# **D412-742-011 B68633**

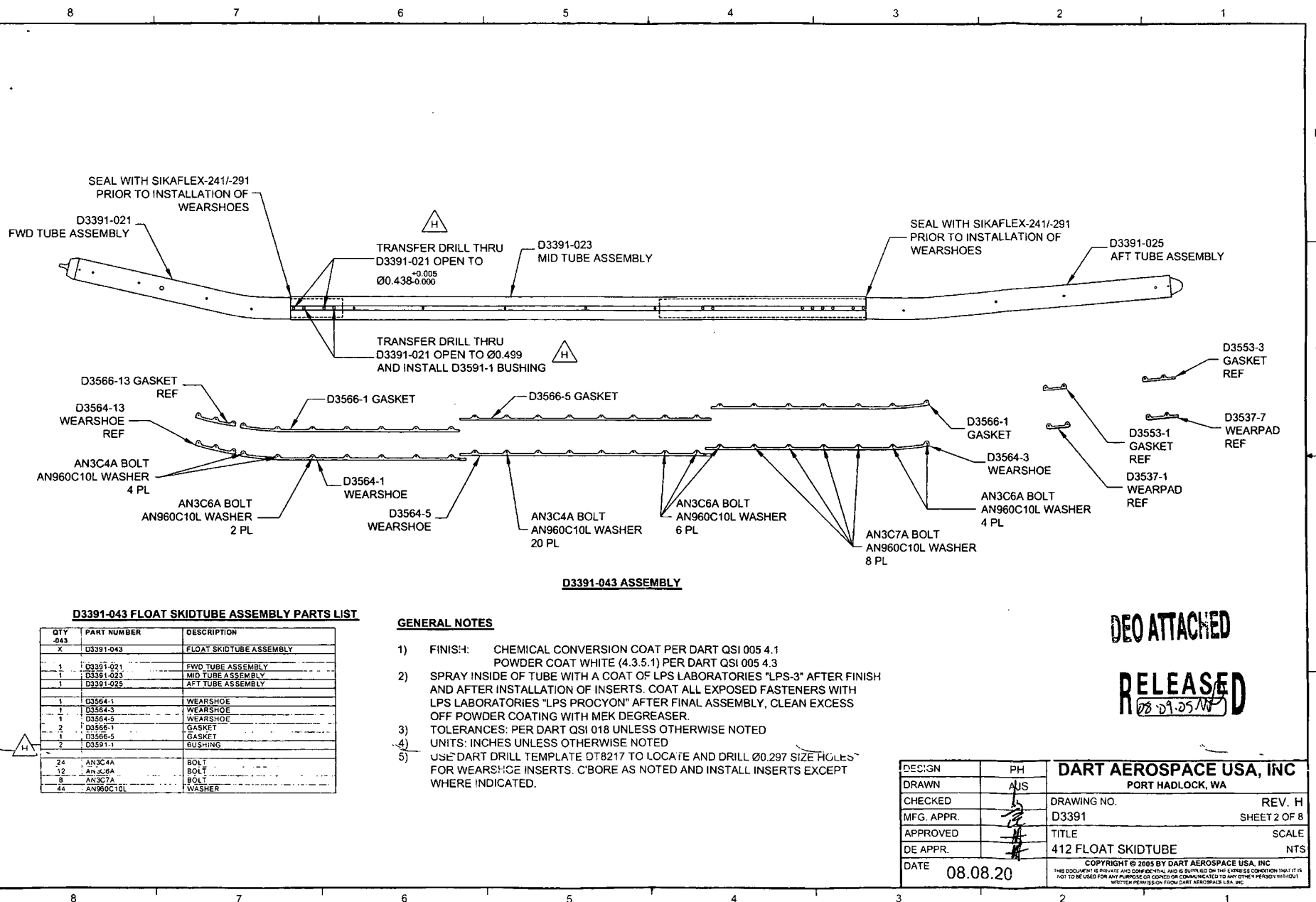
## **Instructions to put float skid tube back into stock**

- Mark on **FWD TUBE HOLD FOR ENGINEERING APPROVAL**
- Remove and **scrap all** wear plates and gaskets
  - Replace with new stock, bolts, and washers
- Remove aft and tow caps
  - Re powder coat as per QSI 005
  - Re install with new bolts and washers
  - AN3C4A, AN960C10L, D3672-1, QTY X8
- Remove all **SADDLES AND GROUND HANDLING LUGS** and set aside for engineering approval
  - create different w/o for this
- discard all hard ware (nuts, bolts, bushings and washers)
- remove all electric step hard ware and discard
- **SAND ENTIRE TUBE WITH 320 GRIT**
- **TOUCH UP ALODINE AS PER QSI 005**
- **RE POWDER COAT AS PER QSI 005**
- Re assemble as per Drawing
- **NO TOW RING WAS RETURNED**
- **Needs complete new kits**

**BOTH TUBE MIGHT ENCOUNTER  
PROBLEMS DURING ASSEMBLY DUE TO  
STRIPED INSERTS OR OTHER UNFORSECEN  
ISSUES**

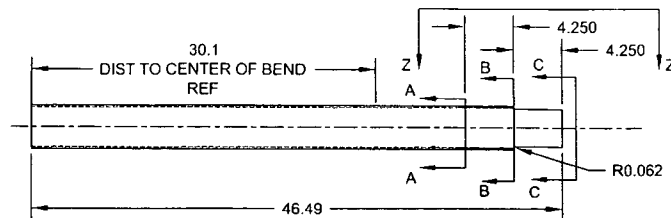


H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO. D3391	REV. H SHEET 1 OF 8
MFG. APPR.		TITLE 412 FLOAT SKIDTUBE	SCALE NTS
APPROVED		COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
DE APPR.		THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	
DATE	08.08.20		

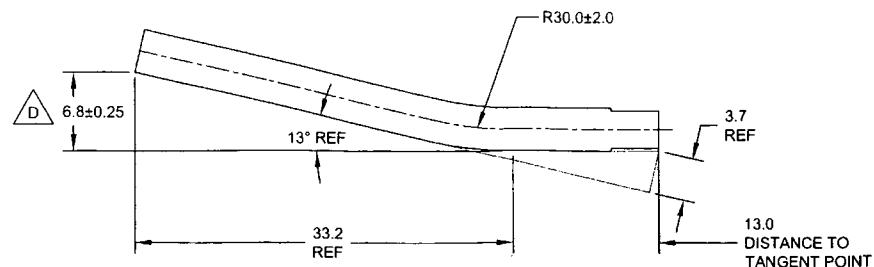


DEO ATTACHED  
RELEASED  
08-09-25/11

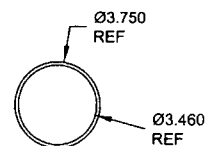




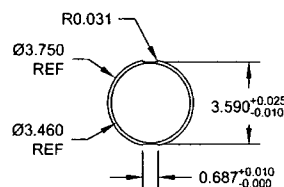
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



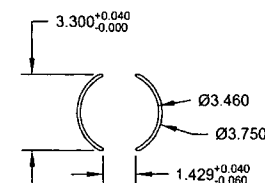
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



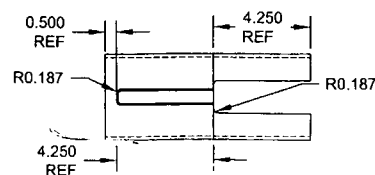
**SECTION A-A**  
SCALE 2X



**SECTION B-B**  
SCALE 2X



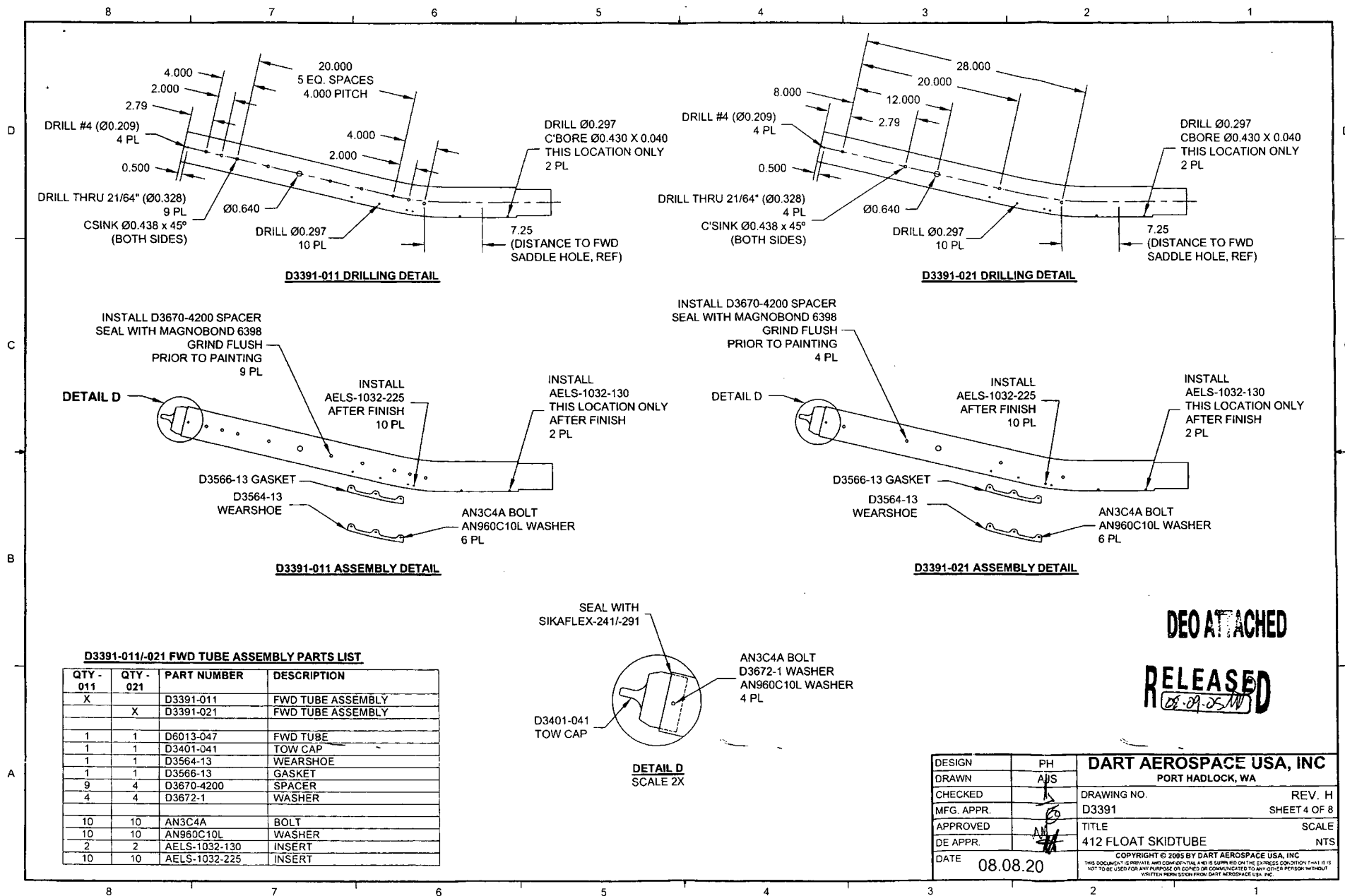
**SECTION C-C**  
SCALE 2X

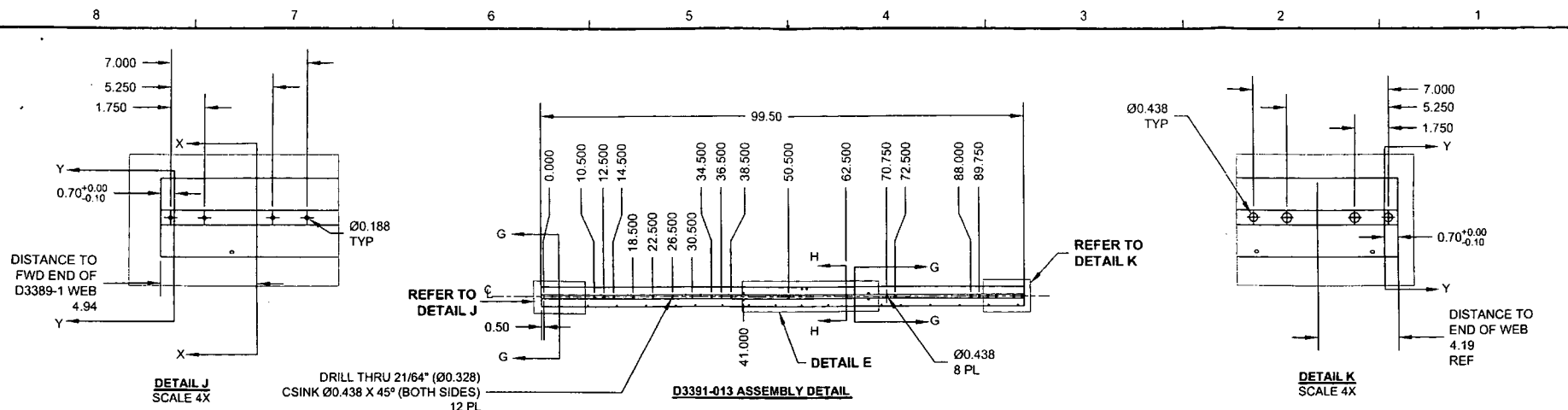


**VIEW Z-Z**  
SCALE 2X

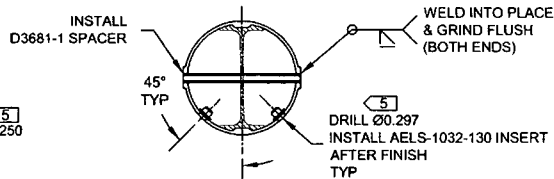
DEO ATTACHED  
RELEASED  
28 JAN 05 NW

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO. D3391	REV. H
MFG. APPR.			SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PREPARED AND CONTROLLED BY DART AEROSPACE USA, INC. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

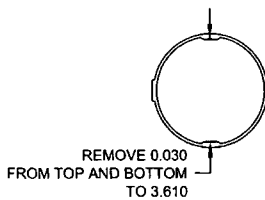




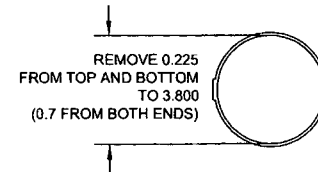
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X

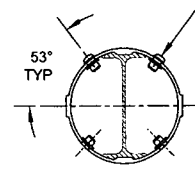


SECTION X-X  
SCALE 5X

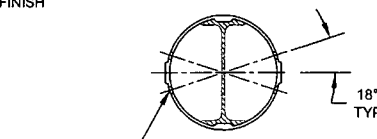


SECTION Y-Y  
SCALE 5X

DRILL 0.297  
INSTALL AELS-1032-130 INSERT  
MS27039C1-09 SCREW  
D3672-1 WASHER  
AN960C10L WASHER  
AFTER FINISH  
4 PL



SECTION M-M  
SCALE 5X



SECTION L-L  
SCALE 5X

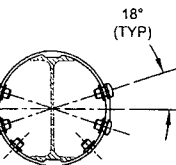
# D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
1	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

## D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART QSI 004

DRILL 0.391  
INSTALL ALS4-428-165 INSERT  
MS27039C4-08 SCREW  
D3672-3 WASHER  
AN960C416L WASHER  
AFTER FINISH  
4 PL

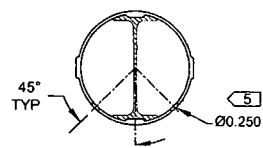
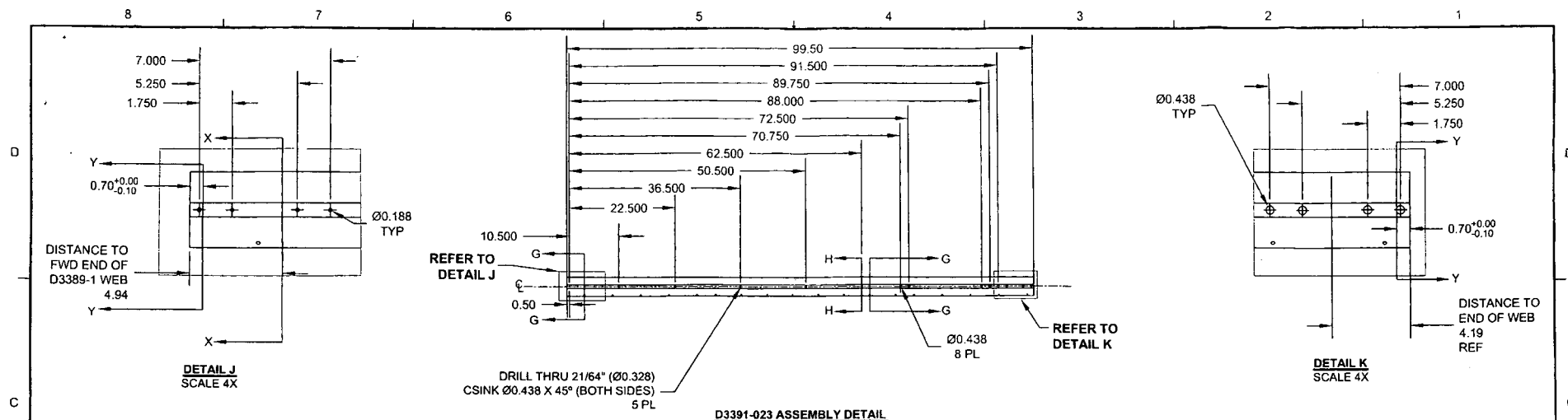


SECTION L-L  
SCALE 5X

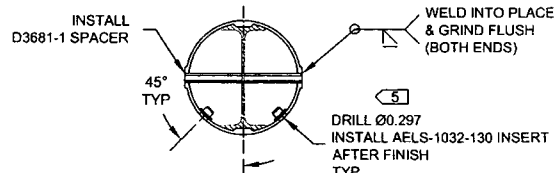
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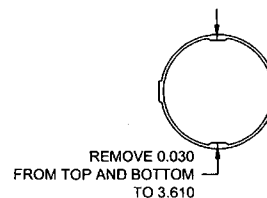
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AIS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	



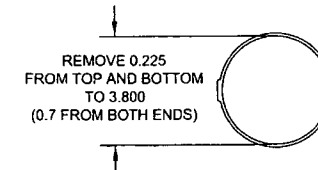
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

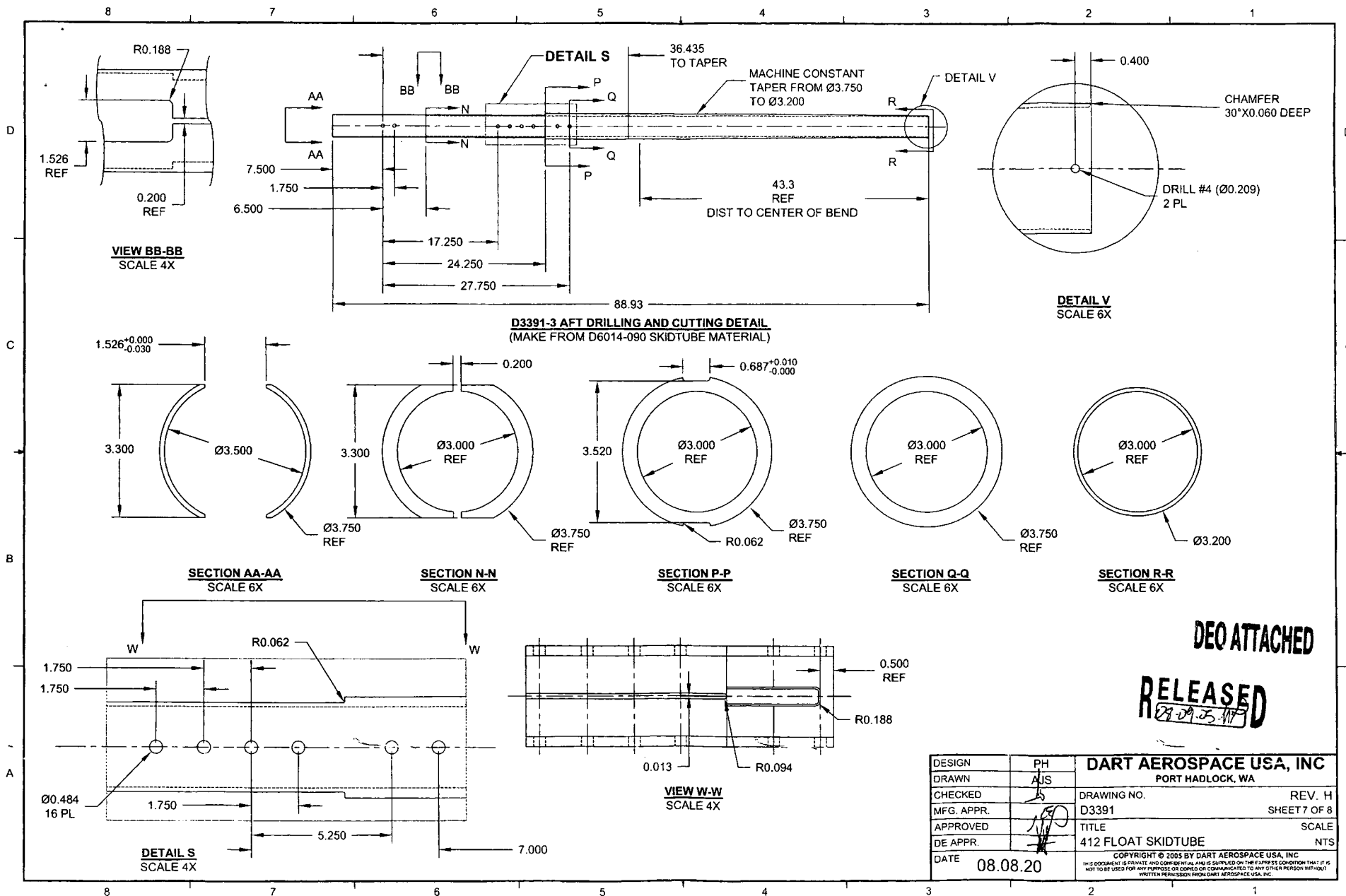
QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

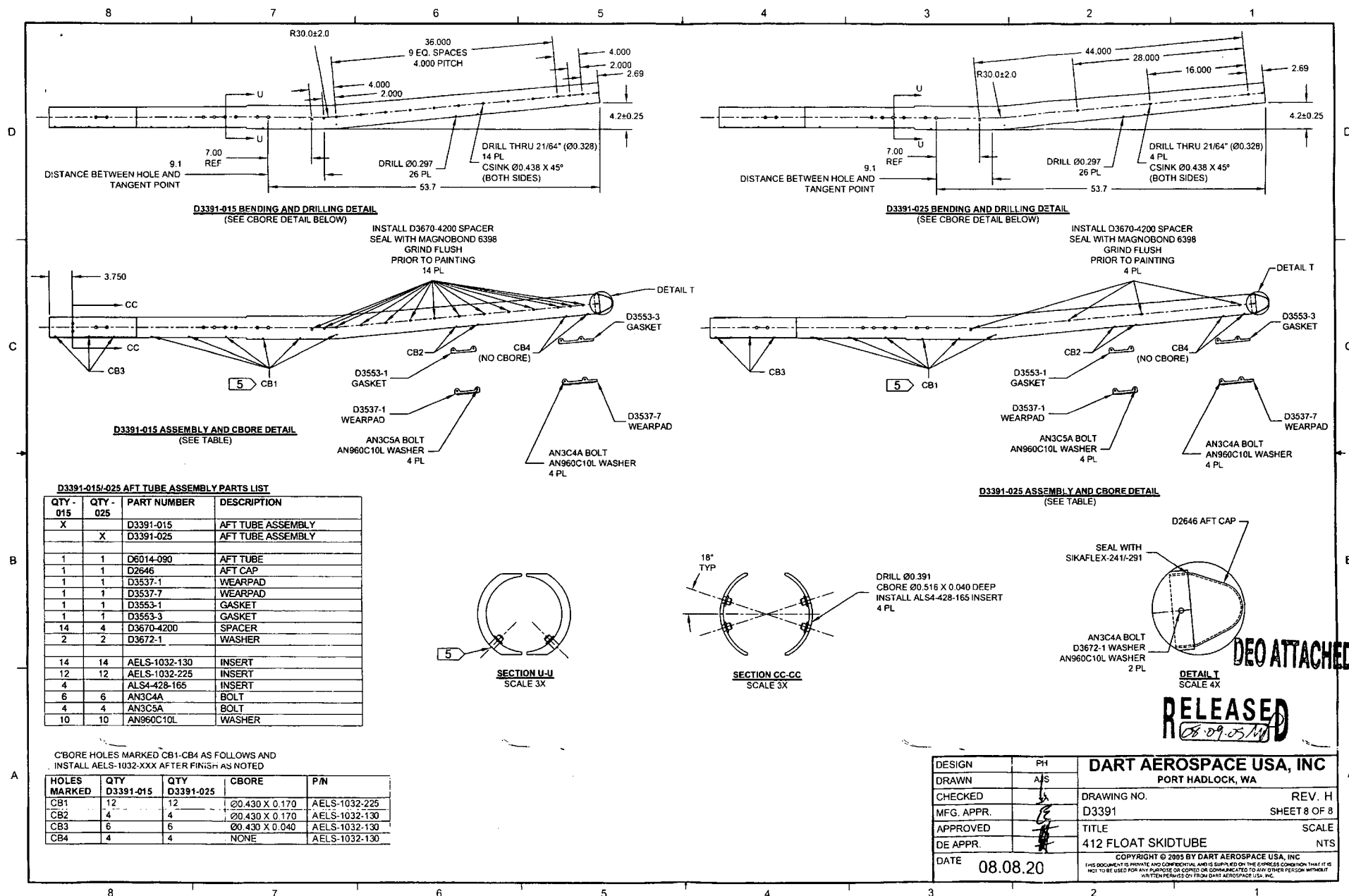
**D3391-023 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DEO ATTACHED  
RELEASED  
08-08-20

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	A/S	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	





DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>h</i>	MFG. APPR. <i>AS</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 09.09.23	DATE 04.09.24	DATE 09/09/25	DATE 09/09/30		DATE 09/09/30		

**PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

**CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~  
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~  
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
 OFF POWDER COATING WITH MEK DEGREASER.

**RELEASED**  
 2010-02-02

*MP*

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REFERENCE ONLY

## 5.0 PARTS LIST

## 5.1 D412-742-011 (PMA/OEM) Float Skidtube Installation Parts List

Item	Qty -011	Qty -041	Qty -015	Part Number	Description
	X			D412-742-011	FLOAT SKIDTUBE INSTALLATION
	1	X		D412-742-041	FLOAT SKIDTUBE
	1		X	D412-742-015	ELECTRIC STEP KIT
		1		D3391-041	412 FLOAT SKIDTUBE
1		*24		*AN3C4A	*BOLT
3		*12		*AN3C6A	*BOLT
4		*8		*AN3C7A	*BOLT
5		*44		*AN960C10L	*WASHER
6		*4		*MS27039C4-12	*SCREW
7A		*4		*D3672-3	*WASHER (REPLACES NAS1515H4L)
7B		*4		*AN960C416L	*WASHER
21A		*1		*D3564-1	*WEARSHOE (REPLACES D3460-1)
21B		*1		*D3566-1	*GASKET
22A		*1		*D3564-3	*WEARSHOE (REPLACES D3460-3)
22B		*1		*D3566-1	*GASKET
23A		*1		*D3564-5	*WEARSHOE (REPLACES D2577-5)
23B		*1		*D3566-5	*GASKET
10		*1		*D3391-011	*412 FORWARD TUBE
11		**1		**D3401-041	**TOW CAP
12A		**10		**AELS-1032-225	**INSERT (REPLACES NAS1330S3KB166)
12B		**2		**AELS-1032-130	**INSERT (REPLACES NAS1330S3KB166)
13		**10		**AN3C4A	**BOLT
14A		**4		**D3672-1	**WASHER (REPLACES NAS1515H3L)
14B		**10		**AN960C10L	**WASHER
24A		**1		**D3564-13	**WEARSHOE
24B		**1		**D3566-13	**GASKET
20		*1		*D3391-013	*412 MID TUBE
28		**24		**AELS-1032-130	**INSERT (REPLACES NAS1330S3KB116)
30		*1		*D3391-015	*412 AFT TUBE
25A		**1		**D3537-1	**WEARPAD
25B		**1		**D3553-1	**GASKET
26A		**1		**D3537-7	**WEARPAD
26B		**1		**D3553-3	**GASKET
31		**1		**D2646	**AFT CAP
32		**14		**AELS-1032-130	**INSERT
36		**12		**AELS-1032-225	**INSERT (REPLACES NAS1330S3KB366)
37A		**6		**AN3C4A	**BOLT
37B		**4		**AN3C5A	**BOLT
38A		**2		**D3672-1	**WASHER (REPLACES NAS1515H3L)
38B		**10		**AN960C10L	**WASHER
39		**4		**ALS4-428-165	**INSERT (REPLACES NAS1330S4KB151)

(CONTINUED ON PAGE 17)

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Revision: D

Date: 07.10.04



(CONTINUED FROM PAGE 16)

Item	Qty -011	Qty -041	Qty -015	Part Number	Description
40	1			D2571	SADDLE, FWD OUTSIDE
41	1			D2572	SADDLE, FWD INSIDE
42	1			D2573	SADDLE, AFT OUTSIDE
43	1			D2574	SADDLE, AFT INSIDE
44	2			D2876	SADDLE SPACER
45	2			D2877	SADDLE SPACER
46	16			D3403-1	BUSHING
47A	4			D2747	SET SCREW
47B	2			D3533-1	SET SCREW
48	16			AN4C6A	BOLT
49	8			AN4C52A	BOLT
50	8			AN6C12A	BOLT
51A	32			D3672-3	WASHER (REPLACES NAS1515H4L)
51B	32			AN960C416L	WASHER
52A	8			D3672-9	WASHER (REPLACES NAS1515H6L)
52B	8			AN960C616L	WASHER
53	16			D3672-11	WASHER (REPLACES NAS1515H7L)
54	24			MS21043-4	NUT
55	4			AN4C7A	BOLT
60	8			D3403-3	BUSHING
61	1			D3405-041	GHW LUG
62	1			D3405-043	GHW LUG
63	4			AN4C46A	BOLT
64	4			MS21043-4	NUT
70	1			D3407-041	TOW RING
71	2			D3417-3	WASHER
72	1			MS21043-4	NUT
73	1			D3456-1	WASHER
80			1	D2913	DOUBLER
81		***4		***ALS4-428-165	***INSERT (REPLACES NAS1329S4KB140)
82		***4		***AELS-1032-130	***INSERT (REPLACES NAS1330S3KB116)
83			2	MS21043-4	NUT
84			2	MS24693-C272	SCREW
85			1	MS35489-35	GROMMET
86			1	MS35489-93	GROMMET
87		***4		***MS27039C1-09	***SCREW
88		***4		***MS27039C4-08	***SCREW
89A		***4	2	***D3672-1	***WASHER (REPLACES NAS1515H3L)
89B		***4	2	***AN960C10L	***WASHER
90A		***4		***D3672-3	***WASHER (REPLACES NAS1515H4L)
90B		***4		***AN960C416L	***WASHER
91	3			AN3C37A	BOLT
92	2			AN3C40A	BOLT
93	3			AN3C41A	BOLT
94	3			AN3C42A	BOLT
95	3			AN3C43A	BOLT
96	9			AN3C44A	BOLT
98	10			AN3C47A	BOLT
99	66			AN960C10L	WASHER
100	33			MS21043-3	NUT

\*DENOTES PART IS INCLUDED WITH D3391-041 ASSEMBLY ABOVE

\*\*DENOTES THAT PART IS INCLUDED ABOVE ASSEMBLY

\*\*\*DENOTES THAT PART IS INCLUDED WITH D3391-013

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Revision: D

Date: 07.10.04

# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-742 REV. D AND  
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D412-742 REV. 3.

REF. FAA STC: SR01583SE  
REF. CANADIAN STC: SH05-37  
REF. EASA STC: EASA.IM.R.S.01126

**REFERENCE ONLY**

## INSTRUCTIONS:

- 1) FOR D412-742-011/-013 SKIDTUBES @ CHANGE 006 AND SUBSEQUENT, UPDATE THE PARTS LIST TO MODIFY THE BOLT USED TO ATTACH THE GHW LUG AS FOLLOWS:

### 5.1 D412-742-011 (PMA/OEM) Float Skidtube Installation Parts List

### 32.15 D412-742-011 (PMA/OEM) Float Skidtube Installation Parts List

ITEM	Qty -011	Qty -041	Qty -015	PART NUMBER	DESCRIPTION
	X			D412-742-011	FLOAT SKIDTUBE INSTALLATION
	1	X		D412-742-041	FLOAT SKIDTUBE
	1		X	D412-742-015	ELECTRIC STEP KIT

#### IS:

63	4			AN4C47A	BOLT
----	---	--	--	---------	------

#### WAS:

63	4			AN4C46A	BOLT
----	---	--	--	---------	------

### 5.2 D412-742-013 (APICAL TRI-BAG) Float Skidtube Installation Parts List

### 32.16 D412-742-013 (APICAL TRI-BAG) Float Skidtube Installation Parts List




ITEM	Qty -013	Qty 043	PART NUMBER	DESCRIPTION
	X		D412-742-013	FLOAT SKIDTUBE INSTALLATION
	1	X	D412-742-043	FLOAT SKIDTUBE

#### IS:

63	4		AN4C47A	BOLT
----	---	--	---------	------

#### WAS:

63	4		AN4C46A	BOLT
----	---	--	---------	------

A	NEW ISSUE	AJS	08.12.19
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	<b>DART AEROSPACE USA, INC</b> PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9441	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		BOLT CHANGE	NTS
DATE	08.12.19	<small>COPYRIGHT © 2008 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

**Work Order ID 71521**

Wednesday, July 06, 2011 7:49:02 AM

Page 1

Item ID: D412-742-011

Accept

Revision ID:

Item Name: Float Skidtube Installation

Setup Start

Stop

Start Date: 7/5/2011 Start Qty: 1.00

Required Date: 7/6/2011 Req'd Qty: 1.00

Cust Item ID:

Customer: CC-EAG001

Reference: RMA RA111249

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

IIN-D412-742

D

100

0.00

QC

Quality Control

Memo

INSPECT RA111244

0.00

110

0.00

HandFinish

Hand Finishing

Memo

-DISASSEMBLE/REMOVE ALL GASKET, WEARPLATES, BOLTS,  
WASHERS, ELECTRIC STEP HARDWARE, ETC...DISCARD/SCRAP ALL

-REMOVE SADDLES AND GROUND HANDLING LUGS - ENGINEERING  
APPROVAL REQ'D

-SAND ENTIRE TUBE WITH 320 GRIT

- TOUCH UP ALODINE PER QSI005

*AS 11/07/06*